

What is claimed is:

1. A method for releasing fluid medicaments at a site in the vasculature of a patient to prevent a restenosis in the lumen of a vessel comprising the steps of:

5 providing an expanding member defining an axis and having a plurality of dispensers mounted on said expanding member for movement therewith, said dispensers being positioned in a plane oriented substantially perpendicular to said axis;

10 advancing said expanding member through the vasculature to the site;

moving said expanding member between a first configuration wherein said dispensers are positioned substantially adjacent said axis of said expanding member, and a second configuration wherein said dispensers are radially extended from said axis for contact with the vessel wall at the site in the vasculature; and

15 releasing said fluid medicament through said dispensers into the vessel wall for a substantially circumferential dispersion of said fluid medicament through said wall around the lumen of the vessel.

20 2. The method of claim 1 wherein said fluid medicament inhibits the proliferation of smooth tissue growth in the vessel.

3. The method of claim 1 wherein said fluid medicament comprises a radioactive isotope.

4. The method of claim 1 wherein said fluid medicament stimulates the production of collateral vessels.

5. The method of claim 1 wherein said fluid medicament comprises ^{99m}Tc (Technetium 99).

6. The method of claim 1 wherein said fluid medicament partly precipitates at approximately a vessel pH level of the vessel.

5 7. The method of claim 1 wherein said fluid medicament comprises a binder which binds to at least a portion of the vessel wall.

8. The method of claim 1 wherein said fluid medicament comprises ^{32}P (Phosphorous 32).

9. The method of claim 1 wherein said fluid medicament comprises
10 a gene for gene therapy.

10. A method for releasing fluid medicaments into a vessel wall of a patient to treat for a vessel disease at a treatment site, the vessel wall including a plurality of internal layers with one of the layers being a target layer, the method comprising the steps of:

5 providing an expanding member defining an axis and having a plurality of dispensers mounted thereon for movement therewith, said dispensers being positioned in a plane oriented substantially perpendicular to said axis;

10 advancing said expanding member through the vessel to the site;

moving said expanding member between a first configuration wherein said dispensers are positioned substantially adjacent said axis of said expanding member, and a second configuration wherein said dispensers are radially extended from said axis for penetrating into the target layer of the vessel wall; and

15 releasing said fluid medicament through said dispensers into the target layer of the vessel wall for a substantially circumferential dispersion of said fluid medicament through said target layer of said wall around the lumen of the vessel.

20 11. The method of claim 10 wherein the vessel wall is an artery having an intima layer and the target layer is the intima layer.

12. The method of claim 11 wherein said fluid medicament inhibits the proliferation of smooth tissue growth in the vessel.

25 13. The method of claim 11 wherein said fluid medicament comprises a radioactive isotope.

14. The method of claim 11 wherein said fluid medicament stimulates the production of collateral vessels.

15. The method of claim 11 wherein said fluid medicament comprises ^{99m}Tc (Technetium 99).

5 16. The method of claim 11 wherein said fluid medicament partly precipitates at approximately a vessel pH level of the vessel.

17. The method of claim 11 wherein said fluid medicament comprises a binder which binds to at least a portion of the vessel wall.

10 18. The method of claim 11 wherein said fluid medicament comprises ^{32}P (Phosphorous 32).

19. The method of claim 11 wherein said fluid medicament comprises a gene for gene therapy.

20. A method for releasing fluid medicaments into an arterial wall of a patient to treat for an arterial disease at a treatment site, the arterial wall including a media layer, the method comprising the steps of:

5 providing an expanding member defining an axis, and having a plurality of dispensers mounted thereon for movement therewith, said dispensers being positioned in a plane oriented substantially perpendicular to said axis;

advancing said expanding member through the artery to the site;

10 moving said expanding member between a first configuration wherein said dispensers are positioned substantially adjacent said axis of said expanding member, and a second configuration wherein said dispensers are radially extended from said axis for penetrating into the media layer of the arterial wall; and

15 releasing said fluid medicament through said dispensers into the target layer of the arterial wall for a substantially circumferential dispersion of said fluid medicament through said media layer of said wall around the lumen of the artery.

21. The method of claim 20 wherein said fluid medicament inhibits
20 the proliferation of smooth tissue growth in the vessel.

22. The method of claim 20 wherein said fluid medicament comprises a radioactive isotope.

23. The method of claim 20 wherein said fluid medicament stimulates the production of collateral vessels.

24. The method of claim 20 wherein said fluid medicament comprises ^{99m}Tc (Technetium 99).

25. The method of claim 20 wherein said fluid medicament partly precipitates at approximately a vessel pH level of the vessel.

5 26. The method of claim 20 wherein said fluid medicament comprises a binder which binds to at least a portion of the vessel wall.

27. The method of claim 20 wherein said fluid medicament comprises ^{32}P (Phosphorous 32).

10 28. The method of claim 20 wherein said fluid medicament comprises a gene for gene therapy.